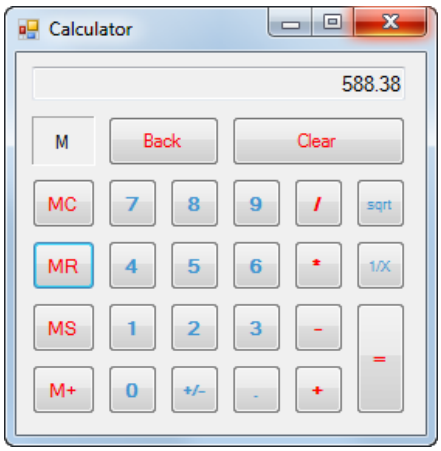
Homework 7 – Calculator Redux

GUI

Description

For this assignment we will modify our calculator to add a memory function.



Specifications

You will need to complete the following:

1. Create a new Project called MemoryCalculator.
2. To clear the contents of memory, the user clicks the MC button. To save the value that's currently displayed in memory, the user clicks the MS button. To recall the value that's currently in memory and display it in the calculator, the user clicks the MR button. And to add the value that's currently displayed to the value in memory, the user clicks the M+ button.
3. An M is displayed in the box above the MC button whenever the memory contains a value.
4. This project has all the same requirements as Homework 5.
5. Create a class named MemoryCalculator that inherits the Calculator class described in Homework 5. The MemoryCalculator class should add properties and methods as needed to implement the memory function.
6. Below is a list of the properties and methods which your derived MemoryCalculator class should contain.

Private field	Description
`memoryValue`	A double that stores the current memory value.
Method	**Description**
`MemoryStore(displayValue)`	Stores the calculator's current value in memory.
`MemoryRecall()`	Sets the calculator's current value to the value stored in memory.
`MemoryAdd(displayValue)`	Adds the calculator's current value to the value currently stored in memory.
`MemoryClear()`	Clears the current memory value.

7. Be sure to override method (including those from Object) as appropriate.
8. Make sure you do not forget to put all XML comments and a comment at the top of the code file which contains your name and the assignment.
9. ***Bonus – Add a history button to the calculator. When the user clicks the history button a new form (not a messagebox) should show with a richtextbox that contains all the calculations performed by the user – one expression per line. The form should give the user an option to clear the history.***

Documentation

You will create a document (.docx, .rtf, .pdf) which contains the following:

- Your name and assignment.
- A screenshot of your form running with at least one test case per operation (Make sure you include division by zero).
- How did you solve the problem of making your calculator behave like the Windows calculator?
- Explain in detail the following concepts –
    - Why is it important we override Equals, GetHashCode, and ToString?
    - What is the base keyword?
    - What is the relationship between Equals and GetHashCode

What to Submit

You need to submit your entire solution folder (zipped) and your document. ***DO NOT*** zip your document. Make sure your document is in the correct format and all your files include your name and assignment.